

SEQUENCE LISTING

<110> New England Biolabs, Inc.  
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<120> Restriction Enzyme Gene Discovery Method

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<140> PCT/US99/13295  
<141> 1999-06-11

<150> 60/089,086  
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<150> 60/089,101  
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<170> PatentIn Ver. 2.0

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<210> 8  
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<210> 15  
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<210> 16  
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<210> 17  
<211> 89  
<212> DNA  
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<210> 18  
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<212> DNA  
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<210> 20  
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<210> 21  
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<210> 23  
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<210> 25  
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<210> 26  
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<210> 27  
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<210> 28  
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<210> 29  
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<210> 30

<211> 89

<212> DNA

<213> Unknown

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<210> 31

<211> 89

<212> DNA

<213> Unknown

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<210> 32

<211> 76

<212> DNA

<213> Unknown

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<210> 33

<211> 78

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Genomic DNA of

Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

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<210> 34  
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<210> 35  
<211> 76  
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<210> 36  
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<210> 37  
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<210> 38  
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<210> 42  
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<212> DNA  
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<210> 43  
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<213> Unknown

<220>  
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Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

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cttaacaaaa cgtaggg 78

<210> 48  
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ttaacaaac gttagag 77

<210> 49  
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<210> 50  
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<210> 52  
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<210> 53  
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<210> 54  
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<210> 55

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<210> 56  
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ttgtctgccc gttagcttaa tcgttagga 89

<210> 57  
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<210> 58  
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<210> 59  
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Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 59  
gcataacaat tgattcaagt cgttcgcttc gctcactgcg ggaccggcta aagccggccc 60  
cttaaccaaa cgtaggc 78

<210> 60  
<211> 76  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 60  
gcctaactac tgggtcaagt cactcgcttc gctcgcttcg gaccgcgctc cgcgggcccct 60  
taaccaaagc ttaggc 76

<210> 61  
<211> 76  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 61  
atctaacaat tgggtcaagt cgttcgcttc gctcactcgg gaccggcgaa gccggcccct 60  
tagccaaagc ttatgc 76

<210> 62  
<211> 87  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 62  
gcataacaat tgggtcaagc cgctcgctcc gctcactcgg acgtccgtaa gctacgcttc 60  
cggccgcccc ttagccaaac gtaggc 87

<210> 63  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 63  
gcctaacaaa tggttcaagt cgttcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttaggc 77

<210> 64  
<211> 72  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 64  
gcctaactat tcagtcaagc ggacgcaaac cccgctgcgc ggtctttgcg ccgcttatct 60  
caagcgttag at 72

<210> 65  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 65  
atctaacatg tggttcaagc cgctcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttagag 77

<210> 66  
<211> 76  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 66  
ctctaacaat tggttcaagc cgctcgcttc gctcgctcgg gatcggcgaa gccggcacct 60  
taaccaaacg ttagag 76

<210> 67  
<211> 78  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 67  
ctctaacaat tggttcagat cgttcgcttc gctcactcgg ggaccggctg aagccggccc 60  
cttaaccaa cgtaggc 78

<210> 68  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 68  
gcctaactac tgggttcaagt cgttcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttaggc 77

<210> 69  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 69  
gtctaacaat gcgctcaaaag cgctcacttc gttcgctggg atcggctaaa gccggcccct 60  
tagcttaatc gttagca 77

<210> 70  
<211> 89  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 70  
tgctaacaat gcgcttaact gtcgctcact tcgttcgctg gatagtcaaa agctgcgctt 60  
ttgtctgtcc gttagcttaa tcgtaggc 89

<210> 71  
<211> 74  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 71  
gcctaacaac tgggttcaaat cgctcgctcc gtcgctggg accggcatag ccggccctta 60  
accaagcggtt agat 74

<210> 72  
<211> 76  
<212> DNA  
<213> Unknown



<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 72  
atctaacaat tggttaaaac cgttcgcttc gctcactggg accggctaaa gccggcccct 60  
taaccaaacg ttaggt 76

<210> 73  
<211> 76  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 73  
gtttaacaac tggttcaagc cgctcgcttc gctcactcgg gaccggctaa attcggcccc 60  
ttagcaaacg ttaact 76

<210> 74  
<211> 78  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 74  
atctaacaat tggttcaagt cgctcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaaccaag cgttatgc 78

<210> 75  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 75  
gtataacaat tggttcaagt cactcgcttc gctcgctcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttagat 77

<210> 76  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 76  
gcataacaag tcgctcaaatt cgctcacttc gtttcgctgg gacgggctaa agcccgcccc 60  
ttagcttatc gttaggc 77

<210> 77  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 77  
gcctaacaaa tggttcaagc cgttcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttagac 77

<210> 78  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA of  
Pseudomonas Alcaligenes NEB #585 (ATCC 55044)

<400> 78  
ctctaacaaa tggttcaagc cgttcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttagac 77

<210> 79  
<211> 52  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 79  
tcgcttcgct cactgcggga ccggctaaag ccggcccctt aaccaaact ta 52

<210> 80  
<211> 43  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 80  
taacaattgg ttcaagtcgt tcgcttcgct cactgcggga ccg 43

<210> 81  
<211> 43  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 81  
taactattca gtcaagcgga cgcaaaccgc gctgcgcggt ctt

43

<210> 82  
<211> 43  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 82  
taacaatgcg ctcaactgcg ctcaattcgt tcgctggaca gcc

43

<210> 83  
<211> 43  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 83  
taacaagtcg ctcaactgcc gctcactcgt tcgctggaca gcc

43

<210> 84  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 84  
gccccttaac caaacgtta

19

<210> 85  
<211> 20  
<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 85

ccgagtgcgc gaagcgagcg

20

<210> 86

<211> 33

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 86

aaactcgagg gtcccgcgagc agcgaagcga gcg

33

<210> 87

<211> 33

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 87

aaactcgagg gtcccgcgagc agcgaagcga gcg

33

<210> 88

<211> 33

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 88

aaactcgagg ctgtccagcg agcgaagcga gcg

33

<210> 89

<211> 33

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Synthetic

Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 89  
aaactcgaga ccgcgagcg gggtttgcgt ccg

33

<210> 90  
<211> 31  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 90  
tgctctagac ggccccttaa ccaaacgtta g

31

<210> 91  
<211> 35  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Synthetic  
Oligonucleotide based on Pseudomonas Alcaligenes  
NEB#585 (ATCC 55044)

<400> 91  
tgctctagac ggccgcccgt tagcttaatc gttag

35

<210> 92  
<211> 60  
<212> DNA  
<213> Unknown

<220>  
<223> Position 2 & 60 - Y = C or T; Position 51 & 59 -  
R = A or G

<220>  
<223> Description of Unknown Organism: Consensus  
sequence

<400> 92  
gyctaacaat tcgttcaagc cgacgccgct tcgcggcgcg gcttaactca rgcgtagry 60

<210> 93  
<211> 7  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
sequence

<220>  
<223> Position 4, 5 & 6 - R = A or G; Position 7 - Y = C  
or T

7

<400> 93  
gttrrry

<210> 94  
<211> 7  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
sequence

<220>  
<223> Position 1 - R = A or G; Position 2, 3 & 4 - Y = C  
or T

7

<400> 94  
ryyyaac

<210> 95  
<211> 6  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
sequence

<220>  
<223> Position 5 - R = A or G; Position 6 - Y = C or T

6

<400> 95  
ttagry

<210> 96  
<211> 24  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

24

<400> 96  
taacataccc ctgcgttaaa cggt

<210> 97  
<211> 40  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

40

<400> 97  
taacagtcaa cgtcctcgtc ctgcgccctt acaacgttag

<210> 98  
<211> 74  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 98  
ctaacaattg gttcaagtcg ctgcgttcgc tcgctcggga ccggctaaag ccggcccctt 60  
aaccaaactg tagg 74

<210> 99  
<211> 19  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

19

<400> 99  
gccagatggc ggccgttta

<210> 100  
<211> 5  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

5

<400> 100  
tctac

<210> 101  
<211> 33  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

33

<400> 101  
gccctatgac agaaaacgct tttttgccgg ttt

<210> 102  
<211> 10  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 102  
ccaacgtccg

10

<210> 103  
<211> 4  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 103  
atag

4

<210> 104  
<211> 9  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 104  
tcatcgtcc

9

<210> 105  
<211> 21  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 105  
cccacgactt aacgcttgcc g

21

<210> 106  
<211> 3  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)



<400> 106  
ata

3

<210> 107  
<211> 28  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 107  
tcagggaaaa ccgcgttttg ccgttcga

28

<210> 108  
<211> 5  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 108  
ctgaa

5

<210> 109  
<211> 6  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 109  
gatagg

6

<210> 110  
<211> 4  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 110  
tcta

4

<210> 111  
<211> 5  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 111  
actaa

5

<210> 112  
<211> 18  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 112  
gccagatgtc ggccgttt

18

<210> 113  
<211> 36  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 113  
gcctctatga tagtaaaagc gcttttttgt cggttt

36

<210> 114  
<211> 6  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 114  
cactga

6

<210> 115  
<211> 5  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 115  
aacta

5

<210> 116  
<211> 8  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Genomic DNA Of  
Pseudomonas Alcaligenes NEB#585 (ATCC 55044)

<400> 116  
ccattgga

8

<210> 117  
<211> 30  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 117  
taactactct cctcgagccg ccctccgtta

30

<210> 118  
<211> 64  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 118  
ctaacatggt tcaagcttcg ctactggga ccggctaaag ccggcccctt aaccaaact 60  
tagg 64

<210> 119  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 119  
gcctaacaat tgggtcaagc cgttcgcttc gctcactcgg gaccggctaa agccggcccc 60  
ttaaccaaac gtaggc 77

<210> 120  
<211> 32  
<212> DNA  
<213> Unknown

<220>

<223> Description of Unknown Organism: Consensus  
Sequence

<400> 120  
aacgtcaacc tccgtctggc cggccttacg tt

32

<210> 121  
<211> 50  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 121  
aacaggttca acctcctcgc tctgggaccg ccggccctta ccaaacgttg

50

<210> 122  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 122  
gcctaacaac tggttcaagt cgctcgcttc gctcgctcgg gaccggctaa agccggcccc 60  
ttaaccaaac gttaggg 77

<210> 123  
<211> 45  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 123  
aacacgctaa ccgctcctcg tcgctggagc gcgcttagcta cgtaa

45

<210> 124  
<211> 75  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 124  
ctaacaatgc gctcaactcg ctcaacttcgt tcgctggacc aaaagctcgc ttttggcccg 60  
ttagcttaat cgtaa 75

<210> 125  
<211> 89  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 125  
acctaacaat gcgctcaact gtcgctcact tcgttcgctg gacagccaaa agctgcgctt 60  
ttgcctgccc gttagcttaa tcgttaggc 89

<210> 126  
<211> 49  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 126  
taacacgctc aacgtcctcg tcctggggca agccgccctt agctcgta 49

<210> 127  
<211> 64  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 127  
taacaagcgc tcaaacgctc ctctgctgct gggacggcaa gccgcccctt agcttaatcg 60  
ttag 64

<210> 128  
<211> 77  
<212> DNA  
<213> Unknown

<220>  
<223> Description of Unknown Organism: Consensus  
Sequence

<400> 128  
gcctaacaat gcgctcaaag cgctcacttc gttcgtctgg accggctaaa gccggcccct 60  
tagcttaatc gttaggt 77

<210> 129  
<211> 78  
<212> DNA  
<213> Unknown

<220>

<223> Description of Unknown Organism: Consensus  
Sequence

<400> 129

gcctaacaat tggttcaagg tcgctcgctt cgctcactcg ggaccggcta aagccggccc 60  
cttaaccaaa cgtaggc 78

<210> 130

<211> 78

<212> DNA

<213> Unknown

<220>

<223> Description of Unknown Organism: Consensus  
Sequence

<400> 130

gcctaacaat tggttcaagg tcgctcgctt cgctcactcg ggaccggcta aagccggccc 60  
cttaaccaaa cgtaggc 78